

IN THE CLAIMS:

Please amend claims 1 and 9, and cancel claims 3-4 and 10 without prejudice or disclaimer so that the claims read as follows:

Claim 1 (Currently Amended): A semiconductor device comprising:

a first back-illuminated semiconductor image pickup element, having a front and a back and a first photosensitive region which is closer to said front than said back thereof; and

a second semiconductor image pickup element also having a front and a back and a second photosensitive region which is closer to said front than back thereof, said second semiconductor image pickup element being made of a semiconductor material different from that of said first back-illuminated semiconductor image pickup element,

wherein said first back-illuminated semiconductor image pickup element and said second semiconductor image pickup element are secured such that respective fronts of said first back-illuminated semiconductor image pickup element and said second semiconductor image pickup element are closer to each other than their respective backs;

wherein mutually opposite faces of said first back-illuminated semiconductor image pickup element and said second semiconductor image pickup element are adhered via at least three or more bumps;

wherein said first back-illuminated semiconductor image pickup element comprises a shift register as formed over said first back-illuminated semiconductor image pickup element;

wherein said shift register is electrically connected via said bumps to said second

semiconductor image pickup element, and that a signal from said second semiconductor image pickup element is read by driving said shift register; and

wherein said first back-illuminated semiconductor image pickup element is made of wider energy band gap material than that of said second semiconductor image pickup element, the wider energy band gap material being etched so as to form a thin shape portion for receiving light.

Claim 2 (Original): The semiconductor device as recited in claim 1, characterized in that mutually opposite faces of said first back-illuminated semiconductor image pickup element and said second semiconductor image pickup element are adhered via a resin.

Claim 3 (Canceled).

Claim 4 (Canceled).

Claim 5 (Original): The semiconductor device as recited in claim 1, characterized in that said first back-illuminated semiconductor image pickup element contains Si.

Claim 6 (Original): The semiconductor device as recited in claim 5, characterized in that said second semiconductor image pickup element contains a compound semiconductor.

Claim 7 (Original): The semiconductor device as recited in claim 6, characterized in that said compound semiconductor includes InGaAs.

Claim 8 (Original): The semiconductor device as recited in claim 1, characterized in that a cooler is in contact with a face of the second semiconductor image pickup element on the opposite side to said first back-illuminated semiconductor image pickup element.

Claim 9 (Currently Amended): The semiconductor device as recited in claim 8, characterized in that:

said first back-illuminated semiconductor image pickup element and said second semiconductor image pickup element partly overlap; and ~~that~~

a substrate containing the same material as said second semiconductor image pickup element is contacted with a region ~~at~~ of said first back-illuminated semiconductor image pickup element,

~~which~~ wherein this region does not overlap said second semiconductor image pickup element.

Claim 10 (Canceled).